

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A method, ~~implemented via an encoder~~, of audio encoding a data stream signal that carries audio and video data, including:

receiving audio and video data, via an input data stream signal;

encoding, via ~~the-an encoder implemented in hardware~~, the audio data of the input data stream signal, for an integer number of N audio frames of the audio data, to have a mean effective audio frame length \bar{F} that equals a video frame length $1/f_v$ over an integer number of M frames of a sequence of video data, where f_v equals a video frame rate of the video data, wherein the encoding includes varying, ~~using the encoder implemented in hardware~~, effective audio frame lengths F of the audio frames per a respective audio frame index j in a defined sequence of effective audio frame lengths $F(j)$ for the sequence of M frames of video data, wherein each respective audio frame, index j , has a structure that includes (i) a number of blocks in a head overlap $H(j)$, (ii) a number of blocks in a tail overlap $T(j)$, and (iii) a number of blocks in between the head overlap and the tail overlap equal to a total number of blocks in the audio frame k minus the quantity of the sum of the head overlap $H(j)$ plus the tail overlap $T(j)$, further wherein the head overlap comprises a length of only (a)

overlap O or (b) overlap $O+1$ long, which enables each audio frame to be tagged via a 1-bit tag to indicate its size and differentiate between short and long audio frames, and wherein each block of the audio frame is tagged via a 1-bit tag to indicate its redundancy so as to differentiate redundant and non-redundant blocks of the respective frame; and

outputting a data stream signal that carries encoded audio and video data, wherein the output data stream signal can be spliced at each video frame of the sequence of M video frames without degradation to audio information of the audio data of corresponding audio frames.

2. (Previously Presented) The method of claim 1, wherein the effective frame length F is adjusted by varying the overlap O between successive audio frames.

3. (Previously Presented) The method of claim 1 or claim 2, wherein the value $F(j)$ repeats periodically on j , the periodicity of $F(j)$ defining the sequence of audio frames within the sequence of video frames.

4. (Previously Presented) The method of claim 3 having M video and N audio frames per sequence, each audio frame being composed of k blocks of t samples each.

5. (Previously Presented) The method of claim 4, wherein a total overlap O_T between audio frames in the corresponding sequence is equal to $O_T = p \times O + q \times (O+1)$, where O is an overlap length in blocks where $p \in \mathbb{N} \wedge q \in \mathbb{N} \wedge O \in \mathbb{N} \wedge O_T \in \mathbb{N}$.

6. (Previously Presented) The method of claim 5, wherein only audio frames corresponding to a particular video frame are overlapped.

7. (Previously Presented) The method of claim 6, wherein $p = (N - M) \times (O + 1) - O_T$ and $q = (N - M) - p$.

8. (Previously Presented) The method of claim 5, wherein only audio frames corresponding to a particular video sequence are overlapped.

9. (Previously Presented) The method of claim 8, wherein $p = (N - 1) \times (O + 1) - O_T$ and $q = (N - 1) - p$.

10. (Previously Presented) The method of claim 5, wherein any adjacent audio frames are overlapped.

11. (Previously Presented) The method of claim 10, wherein $p = N \times (O + 1) - O_T$ and $q = N - p$.

12. (Previously Presented) The method of claim 4 in which

$$\exists n \in \mathbb{N}^+ : n \times t = M \times \left(\frac{f_A}{f_V} \right).$$

13. (Currently Amended) A method, ~~implemented via an encoder~~, of audio encoding a data stream signal that encodes audio and video data, including:

receiving frames of audio and video data, via an input data stream signal;

encoding, via ~~the~~an encoder implemented in hardware, audio samples of N quasi video-matched audio frames of the input data stream signal into frames with a defined sequence of overlap lengths, wherein the encoded audio samples have a mean effective audio frame length \bar{F} that equals a video frame length $\frac{1}{f_V}$ over an integer number of M frames of a sequence of the video data, where f_V equals a frame rate of the video data, wherein an effective length of the defined sequence of overlap lengths of the encoded audio frames coincides with a length of a sequence of M video frames, where M and N are positive integers, wherein the encoding includes varying, using the encoder implemented in hardware, effective audio frame lengths F of the audio frames per a respective audio frame index j in a defined sequence of effective audio frame lengths $F(j)$ for the sequence of M frames of video data, wherein each respective audio frame, index j , has a structure that includes (i) a number of blocks in a head overlap $H(j)$, (ii) a

number of blocks in a tail overlap $T(j)$, and (iii) a number of blocks in between the head overlap and the tail overlap equal to a total number of blocks in the audio frame k minus the quantity of the sum of the head overlap $H(j)$ plus the tail overlap $T(j)$, further wherein the head overlap comprises a length of only (a) overlap 0 or (b) overlap $0+1$ long, which enables each audio frame to be tagged via a 1-bit tag to indicate its size and differentiate between short and long audio frames, and wherein each block of the audio frame is tagged via a 1-bit tag to indicate its redundancy so as to differentiate redundant and non-redundant blocks of the respective frame; and

outputting a data stream signal that carries encoded audio and video data, wherein the output data stream signal can be spliced at each video frame of the sequence of M video frames without degradation to audio information of the audio data of corresponding audio frames.

14. (Previously Presented) A data stream encoded by the method of claim 13.

15. (Previously Presented) The data stream of claim 14, wherein each of the audio frames is tagged to indicate a size of the audio frame.

16. (Previously Presented) The data stream of claim 14, wherein each block of each audio frame is tagged to indicate whether or not the block is a redundant block.

17-21. (Canceled).